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UNDESCRIBED SPECIES OF NEARCTIC TIPULIDAE (DIPTERA). II.

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At this time I am describing certain novelties from the eastern United States, collected in Tennessee by Dr. Inez W. Williams and in Illinois by Dr. Jane C. Dirks Edmunds, and from the western United States, chiefly captured in California by Dr. Dennis Hynes and in Nevada by Dr. Mont A. Cazier. I am greatly indebted to all of these students for the privilege of retaining the type specimens in my personal collection of these flies.

Tipula (Trichotipula) dis, n. sp.

Size medium (wing of male 10 mm.); antennae relatively long; mesonotal praescutum with a broad central gray stripe, lateral margins and a median stripe on posterior notal sclerites yellow; femoral obscure yellow, tips very narrowly dark brown, claws very small; wings slightly darkened, cell *Sc* and stigma still darker brown; sparse macrotrichia in outer ends of cells R_5 and M_1 ; male hypopygium with beak of inner dististyle a long slender blade; eighth sternite with posterior border truncate.

MALE.— Length about 12 mm.; wing 10 mm.; antenna about 4.4 mm.

Frontal prolongation of head above, including the long nasus, yellow, sides dark brown; palpi brownish black, terminal segment paling into obscure orange. Antennae elongate, scape and pedicel light yellow, flagellum black; flagellar segments much exceeding their verticils, basal enlargements small. Head light yellow, whitened anteriorly, sides of posterior vertex with a brown spot, lower genae paler brown; vertical tubercle very low to virtually lacking.

Pronotum yellow, sides darkened. Mesonotal praescutum with a broad central gray stripe, lateral stripes narrow and less distinct, lateral praescutal borders light yellow, interspaces dark brown; posterior sclerites of notum with a continuous light yellow central stripe, scutal lobes gray, the areas ringed with brown; parascutella and sides of mediotergite brown, pleurotergite more yellowed. Pleura reddish brown, variegated by yellowed areas on dorsal sternopleurite,

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posterior sclerites and dorsopleural region. Halteres with stem yellowed, brighter at base, knob infuscated. Legs with coxae brown, middle pair slightly paler; trochanters yellow; femora obscure yellow, tips very narrowly dark brown; tibiae and basitarsi obscure yellow, remainder of tarsi brownish black; claws very small, simple. Wings slightly darkened, cell *Sc* and stigma darker brown; pale areas before and beyond stigma and more narrowly across cell *1st M*₂; narrow indistinct whitened longitudinal streaks in cells beyond cord, outer ends of cells *R* and *M* and in cell *1st A*; veins light brown. Beyond cord veins *R*₁₊₂, *R*₃, *R*₄₊₅, *M*₁₊₂, outer end of *M*₃ and *Cu* with macrotrichia, these lacking on *M*₄; basad of cord lacking on *Rs*, *M* and *1st A*, present on outer half of *2nd A*; outer half of cell *R*₅ and distal end of cell *M*₁ with macrotrichia. Venation: Petiole of cell *M*₁ about one-half *m*.

Abdomen basally reddish brown, darker outwardly; eighth sternite paler medially and at base, with a darkened spot on either side. Male hypopygium with posterior border of tergite broadly notched, the base of the emargination obtusely rounded; margins of lobes with relatively few slender black spines, those near apex sparse and much smaller. Outer dististyle pale, relatively broad, margins with abundant very long black setae; inner style with beak long and slender, bladeliike; outer basal lobe small, appearing triangular in profile. Eighth sternite with posterior border truncate to gently convex, unmodified.

HABITAT.—Nevada (Nye County).

HOLOTYPE, ♂, Oak Spring, Belted Range, May 26, 1940 (Mont A. Cazier and associates).

Tipula (Trichotipula) dis is most similar to species such as *T. (T.) cazieri* Alexander and *T. (T.) dorsolineata* Doane, differing especially in the hypopygial structure, particularly the inner dististyle. It may be noted that *dorsolineata* lacks the macrotrichia in the outer wing cells.

Tipula (Platytipula) paterifera, n. sp.

Belongs to the *cunctans* group; mesonotal praescutum gray with four pale brown stripes that are insensibly bordered by darker brown; posterior sclerites of notum with a narrow brown central line; flagellar segments strongly incised, the basal ones weakly bicolorated; femora brownish yellow, tips brownish black; wings brownish yellow, cells *C* and *Sc* dark brown; abdomen yellow, tergites very narrowly trivittate with brown; male hypopygium with dorsal tergal plate very narrowly and deeply notched, lower plate entire, its posterior border strongly concave, the lateral angles produced; outer dististyle longer than the inner style, the latter unusually simple in structure, produced into a slender smooth beak.

MALE.—Length about 15-16 mm.; wing 15-16 mm.; antenna about 4.7-4.8 mm.

FEMALE.—Length about 16 mm.; wing 12.5 mm.

Frontal prolongation of head yellow, dorsal surface light gray; nasus elongate; basal segments of palpi brown, terminal segment darker. Antennae with three basal segments yellow, scape slightly pruinose; basal flagellar segments weakly bicolored, strongly incised, basal swellings dark brown, paler outwardly, apex dilated, segments longer than their verticils. Head above brownish yellow with a darker brown central line. orbits clearer gray, occiput narrowly yellowed; vertical tubercle small.

Pronotum brownish gray. Mesonotal praescutum gray with four pale brown stripes that are insensibly bordered by darker brown; posterior sclerites of notum light gray, scutal lobes slightly darker; a vague pale brown interrupted central line from suture to base of abdomen, pleurotergite pale gray, more yellowed above. Pleura clear light gray; dorsopleural membrane light yellow. Halteres with stem pale yellow, knob infuscated. Legs with coxae pale gray; trochanters yellow; femora brownish yellow, tips passing into brownish black; tibiae and tarsi light brown, outer tarsal segments still darker; claws simple. Wings brownish yellow, cells *C* and *Sc* dark brown, stigma more brownish yellow; pale brown clouds in outer ends of cells *M* and *1st A*, less evident in other cells; veins brown. Veins beyond cord with sparse long trichia, lacking on the veins comprising cell *1st M*₂; basad of cord with trichia on *Sc* and *Rs*, most of *Cu*₁ and *2nd A* and extensively on *M*, lacking on *1st A*. Venation: *Rs* variable in length, from being subequal to nearly twice *m-cu*; cell *1st M*₂ long, narrowed outwardly, *M*₃₊₄ relatively short, from about two-thirds to subequal to *m*.

Abdomen yellow, tergites very narrowly trivittate with brown, sternites with posterior borders narrowly darkened, the pattern continued throughout the length of the abdomen. Male hypopygium with dorsal plate of tergite deeply and narrowly notched medially, forming broad lateral lobes, their margins subtruncate to feebly concave, weakly crenulate; lower tergal plate entire, its posterior border strongly concave, blackened, lateral angles produced into conspicuous smooth lobes, their tips obtuse. Outer dististyle long and slender, broadest at near midlength; inner style unusually simple in structure, shorter than the outer style, narrow, produced into a slender smooth beak; no lower beak or outer basal lobe developed. Lobes of ninth sternite of moderate length.

HABITAT.— Tennessee (Sevier County).

HOLOTYPE, ♂, Sevierville, October 23, 1938 (Inez W. Williams). *Allotopotype*, ♀, pinned with type. *Paratopotype*, 1 ♂, with the type.

The most similar species is *Tipula (Platytipula) cunctans* Say, the economically important 'Smoky Crane-fly,' which differs evidently in the structure of the male hypopygium, particularly the tergite and inner dististyle. The species of this group have long been referred to the typical subgenus but it now seems desirable to remove them to *Platytipula* Matsumura. 1916, type *moiwana* Matsumura of Japan, a course followed by Savtshenko, 1961, in his outstanding

treatment of the Tipulinae of the U.S.S.R. Other Nearctic species include *T. (P.) carinata* Doane, *T. (P.) maritima* Alexander, *T. (P.) nebulinervis* Alexander, *T. (P.) pendulifera* Alexander, *T. (P.) spenceriana* Alexander, *T. (P.) tennesa* Alexander and *T. (P.) ultima* Alexander. It is of interest to note that the known range of *pendulifera* and *spenceriana*, hitherto recorded as being northwestern species, has been extended to Newfoundland.

Tipula (Lunatipula) triplex integra, n. subsp.

MALE.— Length about 17-18 mm.; wing 16.5-17 mm.; antenna about 6 mm.

Antennae relatively long, flagellum bicolored, with only the outer two or three segments more uniformly darkened. Wings relatively narrow; *m-cu* shortly before fork of M_{3+4} . Male hypopygium with the median tergal lobe very slender, entire, provided with long conspicuous setae to the apex; lateral lobes much stouter but only a trifle longer than the median lobe. Eighth sternite with the submedian lobe broad at base, slightly narrowed to the obtuse tip, surface with microscopic striae.

I am placing this fly as a race of *triplex* Walker chiefly on the conspicuous difference in structure of the median lobe of the ninth tergite as described. There is no trace of an apical split such as occurs in all other races and allied species. All specimens of the type series are identical in this character.

HABITAT.— Illinois (Piatt County).

HOLOTYPE, ♂, White Heath, along the Sangamon River, May 29, 1938 (Jane C. Dirks Edmunds). *Paratopotypes*, 2 ♂♂, May 15-29, 1938.

Tipula (Hesperotipula) linsdalei obispoensis, n. subsp.

MALE.— Length about 16 mm.; wing 14 mm.; antenna about 4 mm.

Differs from typical *linsdalei* chiefly in hypopygial characters. Ninth tergite with the major emargination much deeper, lateral lobes conspicuous, median notch linear, shorter. Inner dististyle with posterior lobe smaller, the outer basal lobe narrow. Setae of the sternal lobes elongate, as in the typical race, quite different from the short dense plushlike setae found in *micheneri* Alexander and some allied species.

Typical *linsdalei* Alexander was described from the Hastings Reservation, Monterey Co., California, May 6-June 1, 1943, taken by Dr. Jean M. Linsdale (Bull. Brooklyn Ent. Soc., 46:85-86; 1951).

HABITAT.— California (San Luis Obispo County).

HOLOTYPE, ♂, San Luis Obispo, April 27, 1961 (Dennis Hynes).

Cryptolabis (Cryptolabis) magnistyla, n. sp.

General coloration of mesonotum brown, sparsely pruinose, pleura more variegated by yellow; femora obscure yellow, tips narrowly brownish black; male hypopygium with the tergite emargi-

nate, lateral lobes provided with relatively few moderately long setae; dististyle appearing terminal, large, bidentate, the lower blade very large; aedeagus elongate.

MALE.—Length about 4 mm.; wing 4.4 mm.

Rostrum and palpi dark brown. Antennae black; flagellar segments a little shorter than their verticils. Head dark.

Pronotum light yellow. Mesonotal praescutum brown, with three confluent gray stripes, more blackened in front, scutal lobes similarly blackish gray; scutellum blackened, pruinose; postnotum black, pruinose, variegated by whitened areas on anterior lateral margins of mediotergite and across the pleurotergite. Pleura dark brown, variegated by yellow on dorsal sternopleurite, posterior sclerites and the dorsopleural membrane. Halteres with stem yellow, knob weakly infuscated. Legs with coxae brownish yellow; trochanters yellow; femora and tibiae obscure yellow, tips narrowly brownish black; tarsi brownish yellow basally, outer segments darker. Wings whitish subhyaline, base clearer white; cord and vein *Cu* in cell *M* narrowly and vaguely darker; veins brown, whitened in the prearcular field. Macrotrichia in centers of cells R_3 through M_3 . Venation: *Rs* oblique, gently arcuated, forming a V with R_{2+3+4} ; R_{2+3} about twice R_2 ; *m-cu* at near midlength of M_{3+4} .

Abdomen dark brown. Male hypopygium with the tergite broadly emarginate, setae of lateral lobes moderately long, not retrorse. Basistyle with inner apical lobe with long setae from strong tubercles. Dististyle appearing terminal in position, large, bidentate, the lower blade narrowing to an acute point, the outer marginal tooth much shorter. Aedeagus elongate, as in *bidenticulata*.

HABITAT.—California (Monterey County).

HOLOTYPE, ♂, Salmon Creek, June 25, 1961 (Dennis Hynes).

Cryptolabis (*Cryptolabis*) *magnistyla* is most similar to *C. (C.) bidenticulata* Alexander, differing evidently in the proportions of the teeth of the dististyle. In the latter species, the hypopygium as mounted on slides, appears to be subterminal in position but this may be caused by the method of mounting. In *bidenticulata* what appear to be the lateral tergal lobes are large oval structures provided with very long yellow setae, the more basal ones retrorse, the smaller inner ventral lobes separate.

Ormosia (*Ormosia*) *hynesi*, n. sp.

General coloration of head and thorax almost uniformly gray; femora and tibiae obscure yellow; wings light brown, stigma barely indicated. R_2 at fork of R_{2+3+4} ; male hypopygium with tergal lobe widened outwardly, apex weakly bilobed; dististyles terminal, both irregular in outline, provided with spinous points or teeth, the inner style at apex further produced into a curved flattened appendage; gonapophysis a blackened rod, at base with a small slender straight spine.

MALE.— Length about 4.5 mm.; wing 5 mm.; antenna about 1.1 mm.

Rostrum brown; palpi brownish black. Antennae of medium length; scape and pedicel dark brown, basal flagellar segments testaceous, outer ones passing into brownish black; flagellar segments long-oval, shorter than their verticils, with a further dense white pubescence. Head dark gray.

Pronotal scutum brownish gray. scutellum and pretergites yellowed. Mesonotum almost uniformly gray, praescutal stripes scarcely evident; pseudosutural foveae and tuberculate pits black; sides of scutellum, parascutella and pleurotergite more reddish brown. Pleura gray, dorsopleural membrane buffy. Halteres with stem yellow, knob very weakly darkened. Legs with coxae pale brown; trochanters yellow; femora and tibiae obscure yellow, the tibial tips and the tarsi darker. Wings light brown, base slightly more yellowed, stigma barely indicated; veins brown. Venation: Sc_1 ending just beyond R_2 , the latter at fork of R_{2+3+4} ; cell $2nd\ M_2$ nearly three times its petiole; $m-cu$ perpendicular, just before fork of M .

Abdomen brown. Male hypopygium with tergal lobe widened outwardly, its apex weakly bilobed. Both dististyles terminal, very irregular in outline, subequal in size; outer style with two acute divergent spines, the apex farther extended into a narrow blade; inner style narrowed beyond base, dilated into a flattened blade that terminates in a curved flattened appendage, the outer margin of blade with two acute teeth and a broader obtuse lobe. Gonapophysis a blackened rod, its expanded base with a small slender straight spine.

HABITAT.— California (San Luis Obispo County).

HOLOTYPE, ♂, Cerro Alto, February 16, 1958 (Dennis Hynes).

I take great pleasure in dedicating this distinct crane-fly to Dr. Dennis Hynes who has added greatly to our knowledge of Nearctic Tipulidae. The most similar regional species include *Ormosia* (*Ormosia*) *cornuta* (Doane), *O. (O.) curvata* Alexander, and some others, all readily distinguished among themselves in the hypopygial structure, particularly the dististyles.

Molophilus (Molophilus) aspersulus, n. sp.

Belongs to the *gracilis* group, *pubipennis* subgroup, allied to *gracilipes*; antennal scape and pedicel brownish yellow, tips narrowly darker brown; male hypopygium with the inner dististyle widened at near midlength, bent at almost a right angle.

MALE.— Length about 4.5 mm.; wing 5.1-5.2 mm.; antenna about 1.1 mm.

Rostrum dark brown; palpi black. Antennae with scape and pedicel brownish yellow, flagellum dark brown; terminal segment shorter and smaller than the penultimate; in *gracilipes*, longer than the penultimate. Head gray.

Pronotum and pretergites light yellow. Mesonotal praescutum light brown, the humeri pale yellow; pseudosutural foveae reddish

brown; scutum light brown, scutellum more yellowed; postnotum dark brown, more yellowed at the interpostnotal suture. Pleura medium brown, variegated with yellow, especially on the dorsal sternopleurite and dorsopleural region. Halteres light yellow. Legs with coxae obscure yellow; trochanters yellow; femora brownish yellow, tips narrowly darker brown; tibiae and tarsi brown, outer segments darker brown; legs, especially the posterior pair, long and slender, as in *gracilipes*; posterior legs with femora and tibiae virtually as in *gracilipes*, the basitarsi evidently longer (in *aspersulus*, tibia, 4.25 mm.; basitarsus, 1.75 mm.; in *gracilipes*, tibia, 4.2 mm.; basitarsus, 1.35 mm.). Wings narrower than in *gracilipes*; prearcular and costal fields somewhat clearer yellow than remainder; veins brownish yellow, macrotrichia long and conspicuous, brown. Venation: R_2 slightly before level of *r-m*; petiole of cell M_3 slightly more than twice *m-cu*.

Abdomen brown, hypopygium slightly more yellowed. Male hypopygium most as in *gracilipes*, differing in details of structure. Outer dististyle a little broader, outer margin with appressed spinules, those of lower edge stout, erect, conspicuous, sides of style unarmed; in *gracilipes*, the spinules more generally distributed over the surface; inner style beyond midlength bent almost at a right angle, extended into an acute point; outer margin with relatively few but long delicate setae.

HABITAT.— California (San Luis Obispo County).

HOLOTYPE, ♂, Dune Lake, May 2, 1958 (Dennis Hynes).

PARATYPE, ♂, R. 27 W, T 11 N, S 31, April 28, 1958 (Dennis Hynes).

The chief differences from *Molophilus* (*Molophilus*) *gracilipes* Alexander (Sonora Pass, California, 8,600 feet) are indicated throughout the above description.